REMARKS

Claims 1-16 have been examined on their merits.

Applicants herein amend claims 1, 3, 5, 7, 10, 12, 14 and 16 to more clearly recite that the links between the nodes use signal compression. In the methods claimed in independent claims 1 and 10, some of the links between the nodes use signal compression and the remainder of the links do not use signal compression. These claim amendments were not made earlier as Applicants believed that the Examiner understood the difference between a network of nodes comprising links that use signal compression and links that do not use signal compression, and a signal traversing a series of links in a network, where the signal itself is in a compressed format, and the links merely transmit the compressed signal. The amendments to claims 1, 3, 5, 7, 10, 12, 14 and 16 do not add any new matter, and do not raise any new issues requiring further search and/or consideration by the Examiner. Entry and consideration of the amendments to claims 1, 3, 5, 7, 10, 12, 14 and 16 is respectfully requested.

Claims 1-16 are all the claims presently pending in the application.

The Examiner objects to claims 5-9 and 14-16 as being dependent upon a rejected base claim. Applicants thank the Examiner for indicating that claims 5-9 and 14-16 would be allowed if rewritten in independent form. However, instead of rewriting claims 5-9 and 14-16 in independent form, Applicants respectfully traverse the prior art rejections for the reasons set forth below.

1. Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lee (U.S. Patent No. 6,122,283) in view of Putzolu (U.S. Patent No. 6,359,902). Applicants traverse the rejection of claims 1-4 at least for the reasons discussed below.

The initial burden of establishing that a claimed invention is *prima facie* obvious rests on the USPTO. *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). To make its *prima facie* case of obviousness, the USPTO must satisfy three requirements:

1. The prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated to artisan to modify a reference or to combine references. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).
2. The proposed modification of the prior art must have had a reasonable expectation of success, and that determined from the vantage point of the artisan at the time the invention was made. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209 (Fed. Cir. 1991).
3. The prior art reference or combination of references must teach or suggest all the limitations of the claims. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991); *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, the nature of a problem to be solved. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). Alternatively, the motivation may be implicit from the prior art as a whole, rather than expressly stated. *Id.* Regardless if the USPTO relies on an

express or an implicit showing of motivation, the USPTO is obligated to provide particular findings related to its conclusion, and those findings must be clear and particular. *Id.* A broad conclusionary statement, standing alone without support, is not "evidence." *Id.; see also, In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001).

In addition, a rejection cannot be predicated on the mere identification of individual components of claimed limitations. *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *Id.*

The Examiner acknowledges that "Lee fails to explicitly disclose that performing at least two routing calculation for a given number of compression is of signal compression." *See* August 4, 2003 Final Office Action, pg. 3. However, the Examiner's statement is not clear. Lee discloses a method for analyzing a mesh network such that redundant paths are eliminated, thereby permitting the *compression of the network topology*. *See* col. 5, lines 2-7 of Lee. Lee lacks any teaching or suggestion that the compressed network topology uses signal compression on any of the links interconnecting the nodes, and further lacks any teaching or suggestion that the compressed links are factored into the compression of the network topology. As discussed in the June 3, 2003 Amendment, the Examiner appears to be confusing the compression of *an entire network*, as disclosed by Lee, with a routing calculation that factors in if individual links use *signal compression* when the routing calculation is being performed, as recited in claim 1. Critically, the Examiner has not cited any passage in Lee that describes the links interconnecting the network nodes as having

signal compression. The Examiner cited in any passage in Lee that describes a network having links that use signal compression and links that do not use signal compression. Moreover, the fact that Lee uses a Dijkstra methodology or a Floyd-Warshall methodology for compression is immaterial. Lee uses those methodologies *to compress a network topology*, and not to perform a routing calculation involving network links that do not use signal compression, as well as network links that do use signal compression. Applicants believe that Lee clearly does not anticipate invention recited in claim 1.

The Examiner seems to be confusing bandwidth with links that use signal compression. For example, all the links disclosed in Putzolu transmit signals that use different types of compression suitable for the particular bandwidth of the link, i.e., the 56 kbps link does not receive a 60 kbps broadcast. Putzolu does not make a distinction between uncompressed links and compressed links, but instead sends compressed signals over all links. When a compressed signal is to be sent from Putzolu's multicast gate (102), the only criterion is what type of bandwidth is available on the link between the multicast system and the recipient of the compressed signal. *See, e.g.*, col. 7, lines 34-48 of Putzolu. The link itself does not use compression, and the type of compression used on the signal remains constant between the multicast gate (102) and the recipient of the compressed signal.[1] Network nodes, located between the multicast gate (102) and compressed signal recipient, do not

[1] For example, the compression used on the signal from the multicast gate (102) to the client terminal (116a) is video format H.263 and audio format G.723. These compression formats remain unchanged as the signal transits through nodes (132 and 128) on its way to the client terminal (116a).

compress/uncompress the compressed signal. Putzolu does not do any calculations involving links that use signal compression and links that do not use signal compression.

The combination of Lee and Putzolu does not teach or suggest performing routing calculations for a network with interconnecting nodes, wherein at least one of the links interconnecting the nodes uses signal compression, as recited in claim 1. More specifically, there is no teaching or suggestion in the combination of Lee and Putzolu of a first routing calculation using less than a maximum number of links having signal compression, and a second routing calculation using the maximum number of links that use signal compression. At best, the combination of Lee and Putzolu discloses compressing a network topology that sends signals over certain routes within the network, and those signals are compressed at their source, remain compressed while transiting the network, and are only uncompressed at their destination. Instead of making routing determinations based on the number of individual links that use signal compression, the combination of Lee and Putzolu discloses compressing the network, and then sending a compressed signal from a source node to a destination node. Claim 1 of the instant application implicitly suggests that some of the signal links used in the first calculation will use signal compression, and the remainder of the signal links used in the first routing calculation will not use signal compression. Whether or not certain node links use signal compression, or do not use signal compression, is a concept never addressed by the combination of Lee and Putzolu. Thus, Applicants believe that the Examiner cannot fulfill the "all limitations" prong of a *prima facie* case of obviousness, as required by *In re Vaeck.*

Since neither Lee nor Putzolu disclose a first routing calculation using less than a maximum number of links having signal compression, and a second routing calculation using the maximum number of links that use signal compression, Applicants believe that one of ordinary skill in the art would not be motivated to combine the two references. *In re Dembiczak* and *In re Zurko* require the Examiner to provide particularized facts on the record as to why one of skill would be motivated to combine the two references. Without a motivation to combine, a rejection based on a *prima facie* case of obviousness is improper. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308 (Fed. Cir. 1999). The Examiner must make specific factual findings with respect to the motivation to combine references. *In re Lee*, 277 F.3d 1338, 1342-44 (Fed. Cir. 2002). Although the Examiner provides a motivation analysis with respect to saving bandwidth, both Lee and Putzolu lack any teaching about a network that has links that use signal compression and links that do not use signal compression, and the desirability of making routing calculations that involve different numbers of signal links that use signal compression. Applicants believe that the Examiner cannot fulfill the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants believe that the combination of Lee and Putzolu fails to disclose all of the claimed elements as arranged in claim 1. Therefore, the combination of Lee and Putzolu clearly cannot render the present invention obvious as recited in claim 1. Thus, Applicants believe that claim 1 is in condition for allowance, and further believe that claims 2-4 are

allowable as well, at least by virtue of their dependency from claim 1. Applicants respectfully request that the Examiner withdraw the § 103(a) rejection of claims 1-4.

2. Claims 10-13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lee in view of Putzolu and in further view of Gittins *et al.* (U.S. Patent No. 5,638,363). Applicants traverse the rejection of claims 10-13 at least for the reasons discussed below.

The Examiner states that Lee in view of Putzolu teaches "routing between a source node and a destination node network having nodes connected by links, compression is used on at least one of the links." *See* August 4, 2003 Final Office Action, pg. 5. As discussed above, Lee discloses a method for analyzing a mesh network such that redundant paths are eliminated, thereby permitting the *compression of the network topology*. *See* col. 5, lines 2-7 of Lee. Lee lacks any teaching or suggestion that the compressed network topology uses signal compression on any of the links interconnecting the nodes, and further lacks any teaching or suggestion that the compressed links are factored into the compression of the network topology. As discussed above with respect to Putzolu, when a compressed signal is to be sent from Putzolu's multicast gate (102), the only criterion is what type of bandwidth is available on the link between the multicast system and the recipient of the compressed signal. *See, e.g.*, col. 7, lines 34-48 of Putzolu. The type of compression used on the signal remains constant between the multicast gate (102) and the recipient of the compressed signal. Network nodes, located between the multicast gate (102) and compressed signal recipient, do not compress/uncompress the signal. In addition, Putzolu does not do any calculations involving links that use signal compression and links that do not use signal compression.

The Examiner acknowledges that the combination of Lee and Putzolu fails to disclose performing a first routing calculation with no compression. *See* August 4, 2003 Final Office Action, pg. 5. The Examiner asserts that Gittins *et al.* discloses the requisite teaching to overcome the acknowledged deficiencies of the combination of Lee and Putzolu.

The combination of Lee, Putzolu and Gittins *et al.* fails to teach or suggest a series of routing calculations as recited in claim 10. The fact that Gittins *et al.* discloses the detection of an overflow condition and the establishment of an overflow link is in no way related to the calculation of the first, second and third routing calculations recited in claim 10. The Examiner has not cited Gittins *et al.* as disclosing any routing calculations at all, and the bandwidth manager of Gittins *et al.* simply adds an overflow link when maximum demand occurs. *See, e.g.*, col. 11, lines 61-67 of Gittins *et al.* When Gittins *et al.* is combined with Lee and Putzolu, the combination still does not teach or suggest performing routing calculations for a network with interconnecting nodes, wherein at least one of the links interconnecting the nodes uses signal compression, as recited in claim 10. Thus, Applicants believe that the Examiner cannot fulfill the "all limitations" prong of a *prima facie* case of obviousness, as required by *In re Vaeck.*

Since neither Lee, Putzolu or Gittins *et al.* disclose a first routing calculation using no links having signal compression, a second routing calculation using less than a maximum number of links having signal compression, and a third routing calculation using the maximum number of links that use signal compression, Applicants believe that one of ordinary skill in the art would not be motivated to combine the three references. *In re Dembiczak* and *In re Zurko* require the Examiner to provide particularized facts on the record as to why one of skill would be motivated to combine

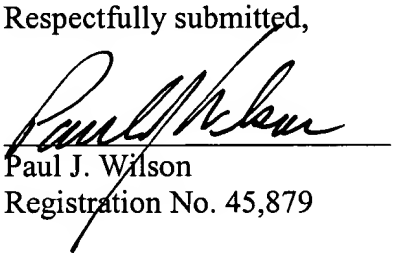
the three references. Without a motivation to combine, a rejection based on a *prima facie* case of obviousness is improper. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308 (Fed. Cir. 1999). The Examiner must make specific factual findings with respect to the motivation to combine references. *In re Lee*, 277 F.3d 1338, 1342-44 (Fed. Cir. 2002). Although the Examiner provides a motivation analysis with respect to saving bandwidth, Lee, Putzolu and Gittins *et al.* lack any teaching about a network that has links that use signal compression and links that do not use signal compression, and the desirability of making routing calculations that involve different numbers of signal links that use signal compression. Applicants believe that the Examiner cannot fulfill the motivation prong of a *prima facie* case of obviousness, as required by *In re Dembiczak* and *In re Zurko*.

Based on the foregoing reasons, Applicants believe that the combination of Lee, Putzolu and Gittins *et al.* fails to disclose all of the claimed elements as arranged in claim 10. Therefore, the combination of Lee, Putzolu and Gittins *et al.* clearly cannot render the present invention obvious as recited in claim 10. Thus, Applicants believe that claim 10 is in condition for allowance, and further believe that claims 11-13 are allowable as well, at least by virtue of their dependency from claim 1. Applicants respectfully request that the Examiner withdraw the § 103(a) rejection of claims 10-13.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Paul J. Wilson
Registration No. 45,879

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: October 21, 2003